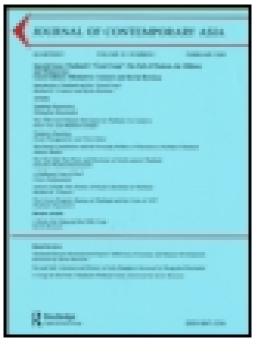

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Material Realities: Why Indonesian Deforestation Persists and Conservation Fails

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Material Realities: Why Indonesian Deforestation Persists and Conservation Fails

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ABSTRACT

Indonesia's deforestation is a crisis of global proportions. Its causes are highly complex, spanning local social and community dynamics to national political hierarchies and global corporate politics, current and historic. Development plays a key role, with global neo-liberal imperatives leveraged, resisted and competing with myriad multi-level agendas and actors. Gramscian analysis of logics and ideology, which combine to construct a global and local "common sense," helps to explain the mixed messages of policy and conservation, which themselves make Indonesian deforestation and its solutions so complicated. Solutions to forest destruction, presented in the form of payment for ecosystem services, multi-stakeholder initiatives, improved governance and transparency within a neo-liberal market framework, have had limited success. The reason for this limited success lies in the notion, encouraged by multilateral and development thinking, that commodification of communities and nature will also conserve forests. Drawing on fieldwork in Indonesia and the United States, this article argues that discrepancies in development and economic policy, which lead to ecologically destructive outcomes like tropical deforestation, cannot be patched up by innovative market tools. Rather, they reflect irreconcilable flaws in contemporary political economy.

KEY WORDS

Palm oil; deforestation; conservation; political economy; Gramscian analysis

The rate of tropical deforestation is higher in Indonesia than anywhere else in the world, and is the source of significant carbon dioxide (CO_2) emissions, contributing to global climate change. It threatens the habitat and lives of countless species, many of which are endemic to the islands of Indonesia. Forest fires damage the health of people not just in Indonesia, but across Southeast Asia. Deforestation also destabilises the soil, contributing to landslides, and alters the hydrosphere (with highly disruptive implications like falling water tables, sinking land, and altered rainfall and heat patterns). Direct causes of deforestation in Indonesia are related to agricultural development, but the full picture of social, economic and political logic behind land use change is less well understood.

Attempts to address Indonesia's deforestation vary, but in recent years are framed almost exclusively within a neo-liberal market model.[1] This assumes that the market

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and its mechanisms, including "effective government capacity and proper legal frameworks" is the most appropriate system to solve the market failure of deforestation, and excludes any measures that would restrict trade or damage profits (Gellert 2010, 542). The existing literature makes valuable contributions to understanding certain essential aspects of deforestation, explaining the challenges of development, and putting into context the role of smallholders and rural people within a system which privileges the wealthy and powerful (see, for example, McCarthy 2010; Larsen and Daviet 2015; Cramb and McCarthy 2016). Some grass-roots activist and non-governmental organisation (NGO) programmes, including the Indonesian Environmental Forum (WALHI), confront environmental problems from a rights perspective. Supported by international NGOs like the World Resources Institute (WRI), WALHI argues that strengthening land tenure arrangements can help to reconfigure "rights and responsibilities over forests" (Gellert 2010, 545). This approach seeks to address the problems of conflict over land and resources frequently associated with palm oil dynamics, which are further complicated by intra-group and intra-generational claims by migrant workers brought in by palm oil companies as labourers (Murray Li 2007; 2015). Different groups of migrants given various rights and expectations over land claims frequently contradict the claims of previous generations of migrants or indigenous claims. These grass-roots programmes, too, accept that appropriate legal frameworks and democratisation will induce "rational actors" to "develop effective institutions" to overcome "market failures" (Gellert 2010, 542).

Other literature maps out the particular challenges of implementing conservation programmes, citing especially land tenure, corruption and legal clarity issues since decentralisation (see, for example, Dermawan et al. 2011; Ardiansyah, Marthen, and Amalia 2015; Gellert and Andiko 2015). Legitimacy is lent to existing applications of the neo-liberal market conservation model, by the apparent success story of Brazil, where once-rampant deforestation declined after 2012, claimed to be due to neo-liberal tools like "good governance" and attention to market-enhancing legal frameworks (see, for example, Boucher et al. 2014; Birdsall, Savedoff, and Seymour 2014). This has encouraged similar interventions in Indonesia. But in December 2016, illegal deforestation in Brazil was shown to have risen to 75% above the 2012 low and there are pressures for increased relaxation of environmental protection laws, against a backdrop of economic recession and weakening institutions (Tollefson 2016). This suggests that neo-liberal market conservation tools have failed to account for the complex of material and political economy interests driving behaviour.

To a certain extent, existing analysis does recognise the opposition and manipulation of private sector interests to conservation agendas and the role of international actors in guiding agendas and influencing degrees of national control over reforms (see McCarthy, Vel, and Afiff 2012; McCarthy 2012; Sullivan 2012; Luttrell et al. 2014). Yet these analyses stop short of acknowledging fully the power of global capital under the persuasive neo-liberal model that demands ever greater returns on investment, how this interacts with Indonesian land-use change, and the way in which economic measures taken to correct market failures in developed country economies, have a significant destructive ecological outcome in Indonesia. This literature also fails to link these global dynamics with the diverse, complex local incentives which make up

Indonesian political economy, and to reflect on how a neo-liberal market framework both causes, and prevents solutions to deforestation.

This article places analysis of global economic ideologies and impulses within the context of local power networks and capitalist dynamics, exploring how international ideas and interventions interact with local political hierarchies and socio-economic conditions. The analysis explains how global capital forces had a significant impact in producing Indonesian outcomes during the commodities boom which followed the 2007–2008 global recession). The significance of global neo-liberal forces should not be overplayed in creating local outcomes. As Gellert (2010, 546) points out, "the neo-liberal model is not monolithic," but is one of a range of inputs and agendas. However, as will be shown, neo-liberalism did play a vital role in directing national and intra-national policy narratives in a key bloc of rich country economies, as they struggled to respond to their financial crises in 2007–2008. This international policy narrative, driven by neo-liberal imperatives to recover surplus creation and capital accumulation, played a profound role in accelerating Indonesian deforestation. The roots of the resulting commodities boom are a key element in explaining how Indonesian deforestation is the product of private, global capital, facilitated by state mechanisms on a global, national and domestic scale.

The analysis in this article uses a Gramscian analysis to acknowledge that different actors make choices based on a variety of social, material and political logics. These varied logics are key to understanding why deforestation happens and why conservation measures have been less successful than programme planners hoped. Analysis of well-known market-based solutions shows how these conservation models reinforce the "common sense" which underpins destructive behaviour. Two mainstream conservation approaches are compared, showing how the motives and agendas of important stakeholder groups affect the programmes' outcomes. Finally, it is contended that the aims of conservation and a neo-liberal market agenda are diametrically opposed, and how an economic growth agenda on a global and local scale is achieved at the expense of forest ecosystems in Indonesia.

The research draws on fieldwork in Jakarta and Washington and on a review of NGO reports and scholarly literature. This article also draws on over 20 interviewees representing multilateral, bilateral, NGO, civil society and industry experience.[2] These sources are combined with historical Marxist and neo-Marxist analysis of political economy and contemporary analysis of global financial structures and assumptions. This research aims to refocus the conservation discussion in a critical theory setting which recognises the inseparability of current modes of economic growth from ecologically unsustainable behaviour. The approach is critical of the dominance and contradictions of contemporary capitalism and its neo-liberal assumptions within conservation.

Gramscian analysis explores hegemonic rule, secured not through domination alone, but rather through broad popular consent. Crucially, this is done by attempting (through various channels) to make the agendas and ideas of elites seem to be clear, common sense to the whole of society, as well as by granting privileges to certain groups (see Davison 2011).

This article is underpinned by a dialectical materialist approach to show that the contradictions inherent in all aspects of the neo-liberal capitalist model which promotes continuous economic growth make deforestation in Indonesia inevitable, holding a mirror up to neo-liberal capitalism to show how it has produced and shaped its own nature and outcomes (see O'Connor 1998). The analysis aims to show that Indonesian deforestation is a product of state-corporate co-operation combined with civil consent, to build a neo-liberal market architecture which privileges profit-seeking at the cost of nature.

Indonesian Deforestation in a Political Economy Context

While Indonesia's deforestation is a crisis of global proportions, variation in estimates of forest loss have confused analysis. Hansen and colleagues (2009), for example, report that forest clearing in Indonesia decreased dramatically from 2000 to 2005 compared to the 1990s, but increased steadily, causing a reduction in forest area, later in the 2000s. Meanwhile, official Ministry of Forestry data appear to show an *increase* in forest area, between 2005 and 2008 (Indrarto et al. 2012).[3] Later analysis indicates that, by the early 2010s, Indonesia is a world leader in deforestation (Margono et al. 2014; Martin 2015).

Hansen and colleagues (2009) qualify the post-Suharto reduction in deforestation, and set the scene for later increases in clearing, with the caveat that "many of the factors that dampened clearing at the turn of the century changed, including post-crisis economic recovery and associated high oil palm commodity prices." Others make the crucial point that the mode of clearing, as well as the rate, is of critical importance, with selective logging increasingly giving way to land clearing fire (Margono et al 2014; Martin 2015). This mode of deforestation is highly destructive, including of carbon-dense peat, releasing large volumes of greenhouse gases. In 2015, forest fires across the archipelago produced daily emissions higher than the daily CO_2 output from all economic activity in the US, an economy 20 times larger than Indonesia's. In a three-week period at the end of 2015, emissions from the fires were greater than Germany's entire annual CO_2 output in that year (Harris et al. 2015). While fires have happened before, notably in 1997, as seen in Figure 1, the number, frequency, size and severity of fires in 2015 was unusual (van der Werf 2015; NASA 2015).

Since 2000, one of the biggest drivers of Indonesia's deforestation has been converting rainforest land to monoculture oil palm plantation (known as "land-use change").[4] Other significant drivers include pulp, paper and fibre, logging, and mining (EIA 2014; Abood et al. 2015). More than 10 million hectares (ha) of forested land converted to monoculture oil palm plantations as of 2014. This already represents 10% of Indonesia's total land area, and it is estimated to be increasing by 600,000 ha every year (IPAC 2014; Gellert 2015). This article focuses predominantly on oil palm as a driver of deforestation.

The causes of this surge in land-use change and oil palm expansion are highly complex, spanning from local social and community dynamics to national political hierarchies and global corporate politics, current and historic. The pressure of global capital on domestic political economies continues to shape particular socio-ecological outcomes. So too, does the complex of domestic political and commercial power constellations, which assert their own agenda, simultaneously leveraging, responding to and resisting "attempts by different networks of external actors to alter their bases of power" (Gellert 2010, 541). President Joko "Jokowi" Widodo's attempts throughout

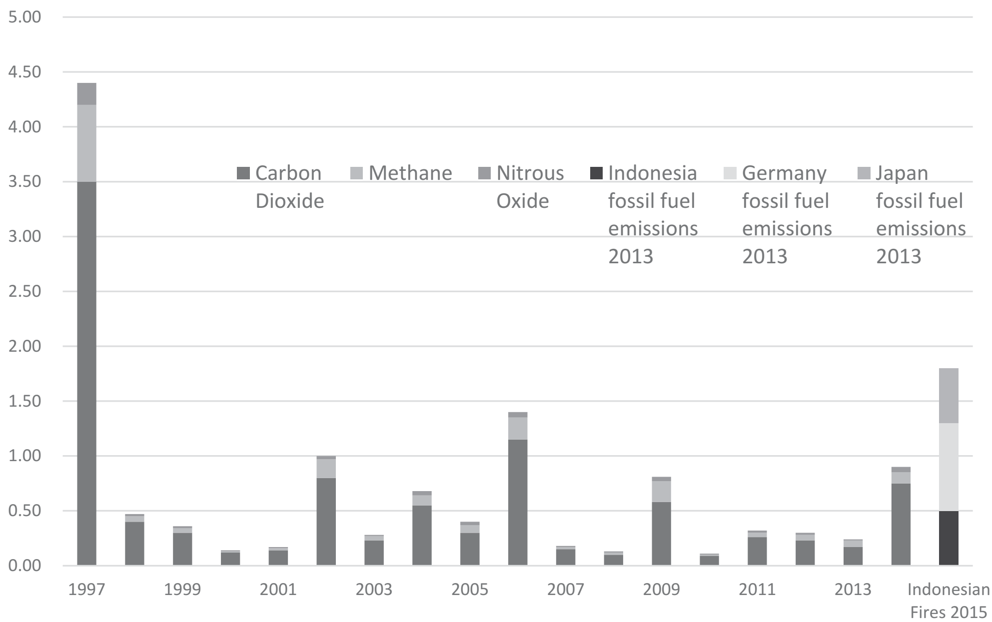

Figure 1. Comparative global fire emissions 1997–2015.

Note: Vertical axis indicates fire emissions from Indonesia (billion tonnes CO_2 equivalent).

Source: Adapted from van der Werf (2015).

2016 and 2017 to regulate deforestation and the industries causing it (through a series of policy measures focusing on agri-business and the treatment of peat lands), respond to the local political economy context firmly within the legal (and neo-liberal market) framework. At the same time, President Widodo's centralised initiatives suggest a push-back against neo-liberal-backed decentralisation, which reduced central government capacity in favour of the democratising effects of power dispersion. Far from destroying the "power of the dominant oligarchy and its hold over the nation's forestry," decentralisation allowed a reorganisation of the entrenched power constellation around extractive industries (Gellert 2010, 540).

This research identifies two distinct zones of enquiry, within which many of these dynamics can be observed. On a domestic and regional level, is a complex of private sector investment (with foreign funding particularly from Malaysian and Singaporean sources), with national and local government support. The line between the state and private sector is often unclear, and "business and political interests in the land-based natural resources sectors are substantial" and convoluted (Luttrell et al. 2014, 71), making it difficult to unpick private from public impulses. The second zone of enquiry features investment in oil palm expansion driven by a global commodities boom, particularly since the post-financial crisis recovery period starting in 2008 (McCarthy, Vel, and Afiff 2012; Gellert 2015).

These two zones of enquiry represent much of the political economy of deforestation in Indonesia. The development of oil palm is directed by local, community agendas, local politicians and national elites, as well as global capital. Local political agendas and agri-business interests combine with strategic commercial and policy architecture. The geographical identity of investment flows can be difficult to pinpoint. According to a forest consultant, Indonesian capital has for decades been expatriated to offshore investment zones. From there it is reinvested under the names of third-party investors, in oil palm expansion and other sectors driving deforestation in Indonesia, so that these investments appear to be regional but are in fact national (Interview, Jakarta, June 26, 2016). These power-laden business-political dynamics "determine outcomes at the upstream end of global production networks" (McCarthy, Gillespie, and Zen 2012).

The process of acquiring land for development is complicated, historically depending on close business and political relationships which involve intricate networks of power and patronage. Historically, the state has encouraged private investment alongside government capital in sectors of national importance. This trend continues, for example in the state-private-sector funding of infrastructure projects like Jakarta's Mass Rapid Transit (*The Jakarta Post*, July 25, 2016). Under various models in colonial, authoritarian and post-reform neo-liberal periods, land-use change has continued to engage a complex mix of actors, who represent corporate international neo-liberal agendas, as well as domestic state and local elite interests (Rice 1983; Gellert 2015). These practices reflect norms which are sometimes formalised in private-public partnerships with multilateral backing in a structured framework, but more often appear in repeated patterns of state-society-business engagement. Such arrangements are common in development economics, but they conflict sharply with conservation agendas. As Robison (1986, 121) notes, "it is the process of conflict within capital itself and the role of the state in this process which gives shape to the specific form which capitalism has taken in Indonesia." An example of a typical conflict of interests can be seen by comparing President Widodo's apparent commitment to reducing carbon emissions (*Tempo*, December 1, 2015), with the position of the immensely powerful Indonesian Palm Oil Association (GAPKI), and the Council of Palm Oil Producing Countries, which both strongly resist efforts to impose restrictions on palm oil consumption or trade (*Jakarta Post*, June 25, 2016 and August 2, 2016; *Tempo*, February 8, 2016). In tangible, business and development terms, most often the demands of industrial and commercial lobbies take priority. This fits a behavioural pattern of global capitalism which increasingly sees state and politico-bureaucrat interests acting "to secure the conditions of capitalist production and reproduction" (Hall 1979, 15).

This article explains the role of global capital flows in deforestation activities, before mapping national capital and post-decentralisation power relations. It then examines the multi-stakeholder initiative (MSI) and payment for ecosystem services (PES) approaches to conservation, laying out their theoretical assumptions and explaining why they are failing to gain sufficient traction in reducing deforestation.

Critical Political Economy and Gramscian Analysis: Theoretical Considerations

This research takes an interdisciplinary, critical approach to understanding deforestation in Indonesia as a product of private-public interactions with civil consent. It seeks to decode the logic of deforestation by linking it to the developmental logic of contemporary capitalism. The analysis leans heavily on Gramsci's concepts of hegemony and of "common sense," which Davison (2011, 2) describes as:

> rule secured through the broad consent of the population, rather than through domination. This is secured partly through making concessions to subordinate groups, but most crucially through seeking to make the ideas of the interests represented by the dominant classes appear to be the obvious "common sense" of a whole society.

This assumes that the way that economic activities are pursued and the pattern of development follow the "common sense" of the ruling, neo-liberal hegemony. Although multiple actors take decisions according to their economic self-interest, this traps them within the hegemonic structure (Forgacs 2000, 421–422). At the same time, the economic decisions available to them are dictated by the hegemony and become unquestionable, "common sense" decisions. "Common sense" therefore percolates, in the construction of a complex and interwoven system, to the whole of society within the "mass of disparate beliefs and opinions that have come together over time." Crehan (2011, 286) explains that "In any given time and place this common sense provides a heterogeneous bundle of taken-for-granted understandings of how the world is that make up the basic landscape within which individuals are socialized and chart their individual life courses."

Application of the Gramscian notion of "common sense" shows how economic self-interest is bundled with hegemonic imperative to create a pattern of activity at multiple levels. The analysis shows how activities and decisions which cause deforestation are broadly unquestioned, and recognise no rational alternative modes of behaviour. The hegemony creates a "common sense," disseminated through the institutions that govern global society. This system of logics, decisions and justifications trickles down from an elite which seeks to reproduce and reinforce the balance of power on which it depends. The ideology bundled within this "common sense" is reinforced at multiple levels throughout society, from consumption and employment decisions by the poor, to development and conservation planning decisions in the United Nations – itself an elite world. By its nature, this set of logics is also the unspoken, unarticulated, sub-conscious "common sense," imposed *by*, but also *on*, the elite, which then seeks to analyse its outcomes. In this way, analysis of the causes of and solutions to ecological and social degradation, fails to understand how actors think and behave. The very "common sense" nature of the dominant ideology makes it invisible to those who seek to correct its failings.

A Gramscian analysis helps to navigate the cultural, ideological, social and material inputs, as well as intrinsic economic configurations, which create the logic for deforestation activities. Power is not just a function of domination and defiance, but "can also encompass seduction, persuasion, manipulation, coercion, authority and co-option" (Cramb and McCarthy 2016, 312). Even in outlying areas of Kalimantan, indigenous farmers harbour ambitions above those of "forest-based livelihoods" (Dressler and Purwanto 2016). This is key to understanding the dynamics of destruction. The reality of oil palm expansion is that many farmers and indigenous community members want to be part of this development (Murray Li 2014; 2015). By taking a Gramscian approach, this research analyses the interplay of economics, legislation, sociology and politics in Indonesia as they relate to deforestation. It attempts to tease apart the motivations, feedback loops and production relations within a "business-political complex that exploits public policy for its own corporate interests" (*Kompas*, April 4, 2016), but which also generates sufficient benefit for those lower in the power hierarchy to ensure varying degrees of willing engagement (Murray Li 2015).

Failure by conservation institutions to understand how stakeholders think underpins successive failures of development and conservation interventions. Two such examples, the Roundtable on Sustainable Palm Oil (RSPO) and the UN's Reducing Emissions from Deforestation and Forest Degradation (REDD+), simultaneously dismiss such material and political economy realities, and reinforce the "common sense" of destructive modes of economic behaviour through their delivery model.

This article approaches the analysis with the assumption that neo-liberal capitalism, by promoting the commodification of nature, and by asserting that private enterprise is the most efficient allocator of resources, is driving the destruction and preventing effective conservation. This system is ecologically destructive because capitalism requires an ever-greater throughput of resources to survive – indeed neo-liberalism is a reaction to the ongoing crisis of capitalism itself, seeking to increase output in order to secure its survival (Hall 1979; Maxton and Randers 2016). Neo-liberal ideology has increasingly become common sense, rather than theory (Harvey 2005, 2–3). This means that there seems no rational alternative to neo-liberalism. In making the assumption that certain characteristics of neo-liberal capitalism create particular outcomes and disallow alternative outcomes, this article challenges the dominant notion in conservation institutions that the framework of contemporary, neo-liberal capitalism is an appropriate model for solving ecological destruction.

The Role of Global Capital

The tight interdependence of international and domestic capital in Indonesia has deep roots which experienced a key point in their development in the early 1980s, largely as a consequence of the crisis associated with a decline in oil prices (Rosser 2001, 3). That crisis provided an opening for international capital to push for the Indonesian economy to integrate more closely with the global capitalist economy. The development not only induced the Indonesian government to open up to international capital investment, but also to liberalise the economy, which was restructured on the basis of competitive advantage and "allocative efficiency" (Robison 1986, 374). The deforestation boom since 2008 is rooted in the same global structure of interdependence, particularly because of global reactions to the financial crisis of 2007–2008, when several key industrialised countries applied quantitative easing. This involved policies that meant the central banks of the US, Britain, Europe and Japan were printing money, which materialised mostly in the form of government and corporate bonds (see Maxton and Randers 2016). The capital was channelled into private banks and other financial institutions, with the idea that they would invest in a range of projects which would, in turn, boost national economies. What resulted was an asset value boom, of which commodities were a part.

The process of creating billions of US dollars, pounds, euros and yen of new money created liquidity in the financial markets and an opportunity for investment. The types of investment envisioned, such as construction and manufacturing, by central bankers and planners in the US, the UK, Europe and Japan, however, were no longer legitimate because their economies were in recession. Investors thus sought potentially lucrative sources of investment for the excess liquidity in the system, which included commodities, resulting in rapidly rising prices (Maxton and Randers 2016). This was the source of the global commodities boom which greatly fuelled the spread of oil palm in Indonesia.

Investments in oil palm since 2008 have been increasingly undertaken by highly concentrated groups of national and regional companies, with links to commodity chains and ownership structures with large and powerful global corporations (Gellert 2015).[5] State planners in Indonesia, responding to the booming global demand for palm oil, drew up ambitious development targets. In response, large numbers of entrepreneurs increasingly sought land licenses. It is easy to miss the presence of global capital in these arrangements, because foreign partners often operate as "silent partners" of local firms, making the links between national, regional and international sources of investment highly opaque. Large-scale palm oil buyers tend to buy in bulk through globalised value chains (McCarthy, Gillespie, and Zen 2012). Global, regional and national capital have combined in a convoluted network, seeking profitable returns on investment, and driving forest destruction as a by-product, or externality.

The prioritisation of capital in these networks has been encouraged, historically and currently, by the tight state-business connections which permeate government policy. This was a pattern noted by Dauvergne (1998) after the Indonesian fires of 1997. Government policies and global markets have encouraged this commercial network, spurring logging, peat drainage and fire as a tool for land clearance. As in 2015, corruption aided and shielded them. And in both cases, "low state capacity, inconsistent and weak responses, and a dry El Nino year fuelled the fires" (Dauvergne 1998, 13). Since the early 2000s, decentralisation and liberalisation initiatives, strongly encouraged by the international business community, have weakened state capacity further, by prioritising the role of the private sector in decision making. International Monetary Fund (IMF) reforms to reduce the bureaucracy and the attendant decentralisation were said to have "served primarily to bail out Western Banks and corporate moguls within the region" (Robison and Rosser 1998, 1594). Decentralisation was broadly structured so that national and regional politics represented "many of the same political entrepreneurs and fixers, business and bureaucratic interests, henchmen and enforcers who had been part of the vast network of patronage that was the New Order" (Hadiz and Robison 2005, 233). While appearing to empower the people, decentralisation has in effect divested power over land-use decisions to local, as opposed to central, elites, and more recently to middle-income entrepreneurs. These decisions over land use are frequently not taken with the best interests of the people in mind. They are often taken to boost the earning potential of powerful individuals and corporations.

Fiscal policy continues to be a contributor to deforestation activities, too. Dauvergne (1998, 14) noted that "inappropriate tax structures and government subsidies contributed to an excessive number of plywood and sawnwood mills." This caused a persistent shortage of logs and a supply vacuum which illegal loggers could move into. Overseas Development Institute findings nearly two decades later suggest that little has changed, with the Indonesian government continuing to provide subsidies that help to make forest loss profitable. Government subsidies as a percentage of GDP were higher in Indonesia than in any other OEDC country, at over 3% overall for the period 2010 to 2012. These take the form of tax breaks, subsidies on credit, fertilisers and seeds, differential export taxes on crude and refined palm oil and investment in research and development and in palm oil infrastructure. The annual average for agricultural subsidies in Indonesia between 2010 and 2012, which included subsidies to palm oil production and consumption, was over US$27 billion (McFarland, Whitley, and Kissinger 2015, 30). This undermines the impact of conservation finance, which will be discussed below.

The conclusion from this should not be that deforestation is all the fault of the government. The government is not free to liberate the political economy from patronage or the so-called "high cost economy."[6] The reasons why subsidies exist and persist need to be understood in the context of a particular political-economy logic. Governments act to remain in power. They frequently come to power on the basis of promises to manage crises (represented by corruption, unemployment or recession, for example), to defend national interests or to represent the needs of the working class. Former President Susilo Bambang Yudhoyono's election ticket was corruption (Djani 2008); and President Widodo gained electoral support as a representative of the *orang kecil*, or the common person (*BBC News*, July 22, 2014). Such electoral platforms create legitimacy for rule. But typically, once in government, leaders become "committed to finding solutions to the crisis which are capable of winning support from key sections of capital, since its solutions are framed within those limits" (Hall 1979, 17). They are not free to act against the will of their most powerful backers. Subsidies are frequently applied to appease one or more interest groups, whose support the government needs. Once subsidies are in place, interest groups strengthen around them and make it very difficult for the state to remove them (McFarland, Whitley, and Kissinger 2015). The needs of capital become the legitimising force keeping the government in power. This reliance on interest groups and the demands of different stakeholders should not be overlooked. Global capital investment has spurred the increase in deforestation since 2008 but basic development (for example, the construction and supply of infrastructure, and poverty reduction) still plays a key role too, as noted in the *Jakarta Post* (September 14, 2016) and on the World Bank's Indonesia Overview website (September 22, 2016). Indonesia's Central Statistics Bureau, and the Asian Development Bank (ADB), suggest that continuing to grow the economy at previous rates will be difficult. Their figures show that although there has been a downward trend in the country's overall poverty rate, the rate of decline is slowing down. The Central Statistics Bureau and ADB say that it will be more difficult to lift the remaining poor out of poverty than it was to improve the livelihoods of those who have already become better off. With the poverty rate still at 10.8% of the population, 80% of whose income is spent on basics like food and housing, development will continue to occupy a central place in Indonesia's priorities (*Jakarta Post*, July 20, 2016). Construction, not conservation, drives economic growth. This is the nature of GDP as a measure of progress. Building roads, bridges, processing plants and shipping facilities all add to GDP. How development is funded and the assumptions of that development model will have important implications for the country's rainforests.

The trajectory of Indonesia's growth model, which sets the tone for national development priorities, which seek to have the country rank among the 10 biggest global economies by 2025,[7] is grounded in the prioritisation of rapid economic growth. Jakarta in the late 2010s is busy with construction, from an underground mass transit system, partly funded by a US$1.18 billion soft loan from the Japan International Co-operation Agency, to new commuter roads and high-rise office and apartment buildings. A new airport terminal at Soekarno–Hatta International Airport, worth US$535.1 million was due to open at full capacity in 2017 (*Jakarta Post*, July 20, 2016). Outside the capital, ambitious projects, including a high-speed railway from Jakarta to Bandung, a joint venture between Indonesia and China, expected to cost US$5.5 billion, will receive 75% of the funding from the China Development Bank (*Jakarta Post*, July 11, 2016). Many of these infrastructure projects have faced problems with land procurement (*The Jakarta Post*, July 20 and 25, 2016; *South China Morning Post*, March 19, 2016). All face the huge challenge of securing funding, given that the high-cost demands of such infrastructure development cannot be met with existing government revenues. Writing on the World Bank website (October 19, 2015), Roesly noted that the wider private sector, with the co-operation of the national government, local governments and state-owned companies, is "expected to contribute the bulk of financing." This development all takes place on the assumption that private enterprise is the most efficient allocator of resources. The state-private-sector arrangement is a model encouraged and promoted for two decades by multilateral agencies like the World Bank (Rosser 2001, 5). It extends to deforestation activities, especially in the expansion of oil palm.

The *reformasi* era since 1998 has followed a neo-liberal trajectory, within a model that accommodates old elites and power relations (see Hadiz and Robison 2005; Robison and Hewison 2005). While Indonesia is far from a fully-liberalised market economy, the current approach to development is reminiscent of a broad trend of neo-liberal development, which favours economic growth and the commoditisation of resources. In common with neo-liberalism across the globe, economic growth is set as the priority. Nature then becomes a "resource" whose worth is commoditised, as timber, or in its wholesale removal to provide the land on which to grow crops as commodities.[8] The mode and ideology of development makes the degradation of land and forests more likely and their conservation more difficult. While international investment demands and development models continue to commoditise nature, attempts to persuade communities that trees are better left standing will be challenged by the financial gains of cutting them down and converting forest to cash crops like oil palm, that provide for livelihoods, motorbikes and healthcare. This way of thinking has become "common sense," with many people in the provinces increasingly thinking of nature in terms of its potential for commodification (Interview, Forest Consultant, Jakarta, June 26, 2016).

National Capital and Post-Decentralisation Power Relations

Oil palm expansion is driven not just by global capital but is also shaped by a particular local political-economic context. This context reflects the deep state-business-society roots of politico-bureaucratic power in Indonesia, which has for decades been established within conglomerates and the families of those who hold bureaucratic power, and with whom these conglomerates are closely allied (Hadiz 2013). Decentralisation reorganised and entrenched these relationships, promoting public-private partnerships in which district officials "hold key powers within networks of local businessmen, brokers, investors, local companies, local communities and large corporations"

(McCarthy, Vel, and Afiff 2012). For district governments, their ability to demonstrate maximum development benefits is underpinned by their ability to attract investors. Local officials who are successful in facilitating investment, and who issue high numbers of permits for oil palm, reap direct benefits themselves. These might include entitlements in oil palm or support for electoral programmes. In short, oil palm has reorganised and reintegrated old and new elites as conglomerations of investors and officials, which together control vast tracts of land, the allocation of rights to use it and resource-based development decisions (McCarthy, Vel, and Afiff 2012).

Changing national agendas, government policies and agribusiness interests are mutually indispensable, symbiotically determining local production networks, development decisions and forest destruction patterns (McCarthy, Gillespie, and Zen 2012). A compatible agenda, pushed by multilateral agencies such as the World Bank and the ADB, encourages the use of state-facilitated private enterprise as a path to development, with little acknowledgement of ecological consequences (ADB 2012; Puzio 2015). Global, neo-liberal ideology of investors and development agencies in industrialised countries, prioritising economic growth, pushes capital to find new sources for investment, which looks like a perfect marriage when it meets opportunities in oil palm expansion in Indonesia.

These complex elements explain the mixed messages of policy and conservation, which themselves have historically made Indonesian deforestation and effective solutions so difficult to understand.

Conservation in a Liberal Market Framework

Declarations of ecological awareness and intentions to stop deforestation clash with development agendas at multiple levels. President Widodo and his predecessor Yudhoyono pledged to tackle deforestation and the regional haze caused by Indonesia's annual forest (clearing) fires. Extending a 2010 agreement, in 2016, President Widodo announced a moratorium on new oil palm concessions (*Tempo*, April 15, 2016; *Jakarta Post*, June 9, 2016). While the moratorium might pave the way for future improvements in resource management in terms of norms, expectations and policy framework, this is not the obvious victory for sustainability that it might appear. The moratorium is only on the issuance of new permits and not on clearing activities by existing permit holders, which continued. In addition, the central state sets targets for palm oil production that are at odds with environmental protection (Daemeter Consulting 2015). The government projected a doubling of national palm oil production between 2015 and 2020. While improvements in agro-technology can go some way to increasing yield, doubling the existing output will be difficult to achieve without increased forest clearing, as the United Nations Development Programme in Jakarta noted in a press release on March 11, 2015.

The reasons for these contradictions lie in the "common sense" assumptions of development models and of conservation. They are based on the idea that economic inputs will quickly and transparently be subsumed into the political, social and ideological levels. They assume that by operating at the economic level, "all the other pieces of the puzzle will fall neatly into place" (Hall 1979, 14). Solutions to the ecological destruction caused by market forces are presented in the form of local community empowerment, corporate social responsibility, improved governance, and transparency within a neo-liberal market framework. Such interventions are representative of the "common sense" in development communities which, despite repeated disappointment, remain the politically accepted approach to conservation and development (Murray Li 2007, 123–128).

This section of the article examines the role of "common sense" in constructing and inhibiting conservation, in the context of MSIs. MSIs are multi-sectoral programmes which assemble various stakeholders to forge governance solutions, within the market, to social and environmental issues (Moog, Spicer, and Steffen 2015). The RSPO is used here as a case study and refers to a competitor programme, the Indonesia Palm Oil Pledge (IPOP). In the PES model, external recipients of ecosystem services make contractual like-for-like payments to local landowners and land users to use that land and its resources for conservation and restoration. Uses can include ecotourism, biodiversity protection and capped carbon emissions. The PES model is considered especially useful when landowners face challenges over land tenure or where government regulation fails to protect the ecosystem (Wunder 2007). This approach prioritises economic efficiency, and puts ecosystem services firmly within a market framework (Farley and Costanza 2010). This article also looks at the global United Nations programme REDD+ as a case study of the PES approach.

RSPO

RSPO is a prominent model promoted for enhancing governance and transparency as a tool for avoiding deforestation. The programme is an increasingly dominant form of privatised environmental governance which has become an integral component of the corporate social responsibility landscape (Moog, Spicer, and Steffen 2015). Like the 1993 Forest Stewardship Council (FSC), RSPO is an MSI, in which best practice criteria are negotiated directly with sectoral stakeholders, without regulation by governments (Moog, Spicer, and Steffen 2015; Cramb and McCarthy 2016).

RSPO is a non-profit organisation which co-ordinates mostly profit-seeking stakeholders from all areas of the palm oil industry, including growers and producers, processors, consumer goods companies, retailers, banks, investors, and environmental and social NGOs. As the RSPO website recorded as of June 6, 2016, together, these stakeholders negotiate to extend and put in place the world-wide standards for sustainable palm oil, by which their environmental and social conduct will then be judged. Founded in 2004 as increasing evidence emerged that palm oil production was causing deforestation, biodiversity destruction and human rights abuses, the RSPO runs a certification scheme which aims to reassure buyers that the palm oil they are using was produced sustainably. The RSPO Standard, which sets out the organisation's principles and criteria, includes a pledge to transparency, conformity with national legislation, reasonable and responsible employment practices, a ban on deforestation in primary forest and areas of high conservation value, and due regard for local communities' customary land rights (EIA 2015). The arrangement creates a form of soft regulation, as well as procedures for setting standards and conducting environmental reporting, supported by monitoring mechanisms like "certification and third-party verification adherence to new governance norms" (Moog, Spicer, and Steffen 2015, 470).

The RSPO website recorded as of June 12, 2016 that the programme has stimulated conversations about sustainability, transparency and industry standards which were not taking place before, and that the system allows consumer choice to counter the disproportionate power of large retailers and merchandisers in global value chains and to achieve improved environmental and social outcomes in palm oil production. This self-regulated, market-oriented form of governance assumes that corporations can negotiate with other stakeholders to agree a common set of beneficial environmental norms, while minimising external state enforcement and the punitive transaction costs these inflict on transnational corporations. The key assumption is that improved governance will come out of market processes, rather than from state enforcement, because producers will automatically react to the environmental concerns of their increasingly sustainability-minded consumers (McCarthy 2012). As with FSC, however, deeper market pressures and asymmetries between non-government, government and market participants combine in a neo-liberal environment to reduce the efficacy of MSIs like RSPO, undermining the apparent aims and enforcement of the scheme.

RSPO has had oversight and verification problems, just as the FSC standard did (see Moog, Spicer, and Steffen 2015). The initiative's success depends on auditors being able to fully monitor the activities of palm oil producers, to verify that they are not causing primary forest or biodiversity habitat destruction. Many consumer goods companies and large banks have outsourced responsibility for the sustainability of their sourcing practices and investments to auditing companies. A number of these assessments have been found to be substandard and in some cases auditors have colluded with plantation groups to cover up transgressions of the RSPO standard, compromising the integrity of the system (EIA 2015).

In the face of growing awareness of sustainability problems, there have been increasing demands by consumers and corporations for palm oil supply chains to be made sustainable and transparent. Some large international palm oil buyers are now working to map their supply chains in Indonesia, to identify where unsustainable practices are taking place. This is turning out to be a hugely complex, expensive and convoluted process. Cleaning up the palm oil supply chain is more difficult than it sounds. It would mean identifying bad or unsustainable industry practices, like clearing primary forest or HCA forest to plant oil palm, which means knowing the identity, location and practices of every farmer and plantation, for every processing mill.

Unilever is co-operating with WRI to increase transparency and reduce deforestation by mapping their supply chain using the forest monitoring platform Global Forest Watch (Melling 2014). Work to strengthen the platform is being supported by the Norwegian government, which has committed US$13.85 million in the period 2016 to 2019 (Butler 2016). By documenting the details of each farmer supplying oil palm fruit to every mill in their supply chain, Unilever hopes to create a system which can spot unsustainable practices like farming oil palm in protected zones or farming where deforestation is more likely. With hundreds of processing mills, however, each supplied by tens of thousands of farmers, mapping the company's entire supply chain is a huge and expensive task. It requires co-operation from multiple stakeholders, many of whom have no incentive to participate in the mapping process. The reality is that palm oil supply chains are extensive and convoluted and this creates complexities that are little understood by large commercial decision-makers downstream (Multilateral agency, Jakarta, 2016; Global research organisation, Jakarta, 2016). According to a global research organisation based in Jakarta, at this time nobody yet even knows "how big a mess the palm oil supply chain is" (Interview, Jakarta, July 14, 2016).

There are other problems too. Although the system is structured to involve diversified stakeholders, critics have argued that the RSPO is dominated by industry actors (McCarthy 2012). The organisation was initiated in 2002 by key retailers and end-users of palm oil (Migros, Sainsburys, Unilever), producers (Golden Hope, the Malaysian Palm Oil Association), and the NGO Worldwide Fund for Nature (Cramb and McCarthy 2016, 409). The predominance of negotiating stakeholders with a vested interest in minimising their transaction costs, casts questions about moral hazard and, hence, the programme's legitimacy.

This conflict of interests is illustrated in a recent, parallel case, of the French palm oil tax. The government of France had intended, as part of their draft Biodiversity Law, to impose a tax of €300 for every tonne of palm oil imported into the country in 2017, rising to €500 per tonne in 2018 and due to reach €900 per tonne in 2020. The tax was presented as a mechanism for decreasing deforestation by reducing consumption of palm oil. GAPKI, which is no longer a member of RSPO, having withdrawn membership in 2011, claimed "to fully support the local sustainable palm oil scheme," the mandatory Indonesian Sustainable Palm Oil, which commits palm oil growers to follow national law (*Jakarta Post*, October 5, 2011; SPOTT (2016). However, it protested the tax saying it would damage economic interests in Indonesia. Representatives of the business group flew to France in February 2016 to lobby against the tax, which was subsequently scrapped by June 2016 (*Tempo*, February 8, 2016; *Jakarta Post*, June 25, 2016).

There is also a set of incentives embedded in the structure of licensing and permit allocation, which the central government has delegated to sub-national state actors. District governments, already operating within weak regulatory and governance environments, far from the gaze of international regulations, are under strong economic pressure to develop the areas under their remit. Given the political and economic investments which plantations commonly make in district politics, and the direct interventions and investments which can be made in local electoral politics by external investors, sub-national state actors have few incentives to enforce restrictive and unpopular regulations (see McCarthy 2012).

Responding to a lack of understanding of palm oil supply chains and apparent frustration by some stakeholders at the lack of progressiveness of RSPO, a competitor programme rose to challenge MSI in palm oil production (Pacheco 2016). IPOP was established in 2014, as a partnership of the major private participants in the palm oil business sector including Wilmar, Golden Agri-Resources, Asian Agri, Musim Mas and Cargill, followed later by PT Astra Agro Lestari, Indonesia's second largest palm oil producer (*Jakarta Post*, July 23, 2016). Its stated goal was "to work towards sustainable palm oil that is deforestation free, respects human and community rights and delivers shareholder value through collaborative multi-stakeholder efforts" (IPOP 2016). The standards were broadly understood to go beyond RSPO, encouraged by notions of "zero-deforestation." Critics of the IPOP model pointed out that there was little engagement or consultation with the government, and that the initiative quickly became a government-bashing exercise. Analysts allege that signatories did not understand what they were signing up to or the complexity of their supply chains. This meant that the ambitious goals for which the programme was praised, like prohibiting deforestation on any type of forest and co-operating with small farmers to raise performance and productivity levels, were unworkable (Interview, Jakarta, July 5, 2016).

Signatories to the programme increasingly came under pressure from "various government ministers" to distance themselves from ambitions such as zero-deforestation (Greenpeace International 2015). Ministers pushed plantation groups and traders at the core of IPOP to discontinue or postpone the enactment of their "No Deforestation" policies, arguing that zero deforestation goes against the national interest (Greenpeace International 2015). The complexity of supply chains and vaguely defined concepts of zero deforestation made such ambitions unrealistic anyway (Interview, Jakarta, July 5, 2016). Certain IPOP signatories allegedly received threats from local administrations that they would lose their rights to forested areas which have been set aside for protection within their concessions if they continued with their "No Deforestation" commitments: a food and agriculture minister said that if concession holders attempted to conserve forested land instead of developing it, then "another company will come to develop it" (*Reuters*, October 7, 2015). In this case, as recorded on the Eco-Business website on July 1, 2016 by Shah, ill-defined notions of sustainability, coupled with movements by business-political actors to protect corporate interests, combined to undermine the programme. The IPOP initiative was officially disbanded on July 1, 2016. The MSI experience in Indonesia has been characterised by contradictions and conflicts of interest, and by a struggle between various factors of market and state vying for hegemony. Differing expectations of what constitutes "the market" and "the state" played out in the experience of IPOP, exposing the contradictions at the heart of neo-liberal common sense.

The MSI model aligns broadly with neo-liberal common sense in assuming that the market, through stakeholders, will self-regulate and solve environmental problems without regulation or enforcement by governments. Rather than seeing the RSPO as a horizontal space of stakeholders, analysts suggest, it should be seen as comprising knots of power that represent "commando centres of network governance." This is characterised by a complex and close relationship between state and private capital and state political power. Leading corporations in the RSPO pursue corporate social responsibility and voluntary standards as a soft form of governance while simultaneously preventing the hard regulation of the state (Cramb and McCarthy 2016, 410). The notion that market incentives will drive sustainable behaviour, central to the MSI model, is based on neo-liberal assumptions that when the market is allowed to function freely, all other elements will fall into place. Evidence suggests this is so far failing on several levels.

UNREDD+

The commodification and subordination to market mechanisms (while ignoring the political dynamics and power relations described above) of the MSI approach are also visible in the PES model. REDD+ aims to give monetary rewards to developing countries, which, by reducing deforestation, reduce their national emissions. A country which takes remedial action to reduce current or anticipated rates of deforestation and forest degradation, will receive financial payment in line with the level of their actual emissions reductions. REDD+ goes a step further than the basic model, recognising conservation activities for their role in reducing carbon emissions. The programme's proponents say it is an unparalleled chance to gain significant emissions reductions without major sacrifices to corporate income. By placing an economic value on the carbon capture and storage function of forest ecosystems, intact forests can pose an attractive alternative to historically more profitable, and more destructive, land uses (Global Canopy Programme 2016).

The key concept of REDD+ is that owners and users of forested land are paid to cut emissions and to boost carbon storage capacity. This method of performance-based payments is believed to directly encourage forest landowners and users to work forests more sustainably and to limit the scale and pace of deforestation. The idea is that people will sell carbon credits in place of "cattle, coffee, cocoa or charcoal" (Angelsen 2009). A central problem with this approach, however, is that the scale of funding available for REDD+, although large, is still several orders of magnitude smaller than funds being invested in the sectors causing deforestation (Martin 2015). Market beneficiaries are also far more diverse and varied than those identified in stakeholder programmes, so the beneficiaries of compensatory or conservation programmes are diluted. This is in stark contrast to domestic subsidies contributing to the drivers of deforestation. On average, national agricultural and biofuels subsidies in Indonesia exceed REDD+ finance by a factor of 164 (see Tables 1 and 2).

The mechanism is also rather complicated, involving a long process of planning, calculation, negotiation and implementation, and requiring engagement with a multitude of actors with a variety of expertise. It is not clear which institutions are authorised to prioritise the site and model of REDD+ scheme, or to decide the necessary criteria for a REDD+ project to gain state approval (McCarthy 2012). PES schemes also require clarity in land ownership, which in Indonesia is highly contested. Powerful actors can

Table 1. Brazil and Indonesia: REDD+ finance received, compared with domestic subsidies on agriculture and biofuels.

	REDD+ finance (2006–2014 annual average in $ million)	Agricultural subsidies (2010–2012 annual average in $ million)	Biofuel subsidies (2009) $ million
Indonesia	165	27,072	79
Brazil	158	11,082	2,700
Total	346	38,154	2,779

Source: Adapted from McFarland, Whitley, and Kissinger (2015, 15).

Table 2. REDD+ finance received, compared with domestic subsidies on agriculture and biofuels.

	REDD+ finance (2006–2014 annual average in $ million)	Agricultural subsidies (2010–2012 annual average in $ million)	Biofuel subsidies (2009) $ million
Indonesia	165	27,072	79
Brazil	158	11,082	2,700
China	9	160,023	500
Mexico	12	7,880	-
Total	346	206,057	3,279

Source: Adapted from McFarland, Whitley, and Kissinger (2015, 16).

adopt the language and concepts of REDD+ to support competing land ownership declarations, undermining the programme's original intent (Eilenberg 2015).

There is a perception among stakeholders that PES initiatives make a lot of promises, but because the programmes are results-based and the targets are unclear and difficult to achieve, the money rarely materialises. In contrast, the income from selling land to plantations, or from farming oil palm, is seen to be more certain and tangible (GIZ and FORCLIME 2016). According to a Jakarta-based forestry consultant, "the palm oil companies give people jobs, not the government or conservation" (Interview, Jakarta, July 14, 2016).

The actual numbers of jobs created by the palm oil industry is disputed (Murray Li 2014, 182). However, the point is that material realities will dictate people's behaviour. As Hall (1987) pointed out in his essay on Gramscian perspectives on the rise of neo-liberalism in the 1980s, people respond to the ideology of neo-liberalism because it is attractive. A viable alternative to marketisation has to be just as easy and attractive or it will fail. Gramsci knew that to change people's common sense it is necessary to "engage with what people actually think" (Forgacs 2000, 324). The interventions described above, fall short of the depth of engagement necessary to understand the political-economic and material realities which make people's activities destructive. Mapping the beneficiaries of PES schemes, no less than mapping the palm oil supply-chain, is complicated, time consuming and expensive. The many and varied participants in destructive activities do what they do because it makes material and social sense. They have little incentive to change or to engage in difficult, complicated operations to bring about change.

The balance of power between different actors at state level, both national and sub-national, creates uncertainties. Powerful state actors choose between different policy options, while agriculture and logging agendas shape district government decisions over forest land quotas. The national political economy depends heavily on land-based resource sectors, and much of the country's private wealth is vested in palm oil, timber and fossil fuels, as noted in the magazines *Five Stars and a Moon* (September 25, 2015) and *Indonesia Investments* (April 5, 2016). The 2015 Forbes survey of Indonesia's richest individuals reveals that the wealthiest sector is still heavily represented by investments in extractive industries including palm oil, coal, oil and timber. Eleven of the 28 listed billionaires in the 2015 list invested in palm oil (Forbes 2015). This relationship is not new. The links between policy and business interests are historically tight. As Robison (1986, 396) noted, "most leading politico-bureaucrat families are also capital owners and embody the competing interests of capital interest and the needs of politico-bureaucrats to appropriate the state apparatus."

The oil palm lobby, particularly through GAPKI, exercises enormous power locally, as well as internationally. Underpinning any discussion about forest use and conservation is a conviction among many ministers and industry actors that restrictions on forest use go against the national interest or damage sovereignty (Luttrell et al. 2014). Such views were a source of conflict in REDD+ discussions (Forest consultant, Jakarta, 2016). The state is effectively harnessed to the needs of capital accumulation, and Indonesia has a clear roadmap for economic growth. The 2017 state budget established an economic growth target of 5.3% to 5.9%. By world standards, such economic growth is large and is driven by a perception that growth must remain high to generate income and employment growth (*Jakarta Post*, August 27, 2015; December 2, 2015). In REDD+ discussions this growth targeting was controversial, with questions raised about whether the REDD+ programme might require restrictions on economic development and growth (Luttrell et al. 2014).

This kind of debate on growth and the environment displays a deep conflict of interests. There is strong and diverse pressure on Indonesia's government to boost investment and output. There is discord – in government, and in public discussion – about the function of forests as a common national good. On one side, there is great consternation about lost investment from restrictions on forest clearing activities (Luttrell et al. 2014). On the other side, claims abound in the sustainability and conservation sectors that low carbon growth strategies and PES schemes can achieve economic growth at the same time as sequestering carbon (LEDS Global Partnership 2015; IDH Sustainable Trade 2016). The pressure to maintain economic growth, both nationally and globally, lies at the heart of the deforestation discussion.

The Contradictions of Conservation

The discussion in this article does not suggest that there have been no improvements or successes in forest resource management approaches or in the field of conservation in Indonesia. Practical, tangible programmes like the WRI-Unilever co-operation are at least beginning to map the scale of the challenge which is a step closer to managing it. Several other large companies, including Mondelēz, Cargill and Mars, are also using the World Forest Watch platform to monitor their supply chains (see Butler 2016).

The official narrative on the cause of fires across the Indonesian archipelago has changed too, from one of blaming weather cycles, natural phenomena and small-scale slash and burn farming practices, to acknowledgement of the role played by large companies. Much is made of peatland rehabilitation programmes, which aim to raise the water table and rehydrate degraded peatlands, preserving the vital carbon sink function of these areas and protecting them against conversion to agricultural or other uses. The notion that this represents real progress, however, is difficult to sustain. As observed in the *Jakarta Post* (November 25, 2015), President Widodo did establish a Peatland Restoration Agency in January 2016 to oversee the restoration of two million ha of peatland, pledged at COP21 in Paris in November 2015 (Ecosystem Marketplace 2016). Changes to the regulations to support the Paris pledge, however, have been compromised. In early 2017 the government issued a revision to peatland regulations (Government Regulation No. 71/2014) which looked superficially like a ban on the conversion of all peatlands, as mentioned in an email to me from a Jakarta-based forest conservationist, on June 12, 2017. In reality, the regulation contained a number of loopholes: existing plantation licenses remained valid, creating the conditions for continued cultivation for several decades. The regulations protect only 30% of the peat, plus areas over three metres deep usually located in the centre of peat systems, but all other areas can be drained and cleared. Since peat areas are integrally connected through the hydrological system, draining the boundaries will ultimately cause the degradation of the entire structure (Indradi 2017). A significant challenge remains to identify where endangered peatlands are, who currently owns them, and to manage the legal process to ensure that clearance work on the identified land stops (*Jakarta Post*, May 9, 2016).

The conservation aims of MSI and PES programmes are incapacitated by the model through which they are conducted. Neither is able to address the driving force of economic growth behind deforestation and ecosystem destruction. Put simply, for economies to grow, the output of physical goods must increase unless there is decoupling, which is not currently the case. The growth of output requires us to use evermore natural resources, which requires resource extraction, which causes ecological destruction like deforestation. The assumption of the MSI and PES models is that the market, within a neo-liberal framework, is the most efficient allocator of those resources. The problem is that the market allocates resources within the economy, without taking account of the real value of nature. Given that 7.4 billion people live in nature, and not in a vacuum which includes only the economy, the current approach is flawed. Despite a range of insightful analyses in the literature, the architects of MSI and PES programmes do not acknowledge sufficiently that reducing forest destruction is fundamentally at odds with a global – and local – neo-liberal growth agenda.

Proponents of the idea that with economic development comes more sustainable behaviour, might suggest that developed countries provide a useful model. A useful example might be Scandinavia, where a historic policy of free-felling in forests was replaced in the twentieth century by one of sustainable resource management (Borealforest.org, July 24, 2016). As Dauvergne (2010) points out however, there is a flaw in the idea that incremental change in the developed world will, given the right market tools and discipline, emerge too in the developing world. It fails to recognise how such incremental improvements in environmental standards have been made in the rich world, without downgrading the consumption and profit-driven model by which it operates. Developed countries have indeed improved their environmental protection, not just in forestry but in air, soil and water pollution too. They have achieved this through the application of cleaner technology, such as particulate and pollutant filters on cars and smoke stacks and better waste management techniques. They have also achieved this by exporting their production facilities and extractive activities to the developing world, creating a double bonus for themselves in the process: fewer polluting factories at home and cheaper labour and production infrastructure abroad. As Dauvergne (2010, 8) explains, this is the crux of the "problematic capitalist world order built on ever-expanding economic growth, consumption, and markets, and efficiencies and profits realized by distancing and externalizing the environmental and social costs of producing, using, and replacing consumer goods."

If conservation programmes attempt to work within this model, characteristic of neo-liberal economic growth, various powerful interests and capital will continue to dominate. This is something which conservation programme architects cannot alter as neo-liberal market ideology dictates that any measures taken within a multilateral framework to reduce climate change must not restrict market activities or represent "a disguised restriction on international trade" (IPCC Data, n.d.). The prioritisation of economic growth has become "common sense" underwritten by powerful global trade legislation. Legally and ideologically, there is no alternative permitted. Such legislation directly – and constitutionally – undermines conservation programmes like REDD+. The constitutional caveat prioritising trade over climate change prevention underpins the most prominent and best-funded Indonesian forest protection initiatives. This means that a global neo-liberal market agenda, driven by national and multinational actors under the guidance of multilateral agencies and institutions, make any within-the-system solution impossible and preclude any solutions outside the system, ensuring that Indonesian development and conservation policies are mutually incompatible.

These contradictions in global economic policy, which are also applied locally under national neo-liberal assumptions, cannot be patched up by innovative market tools. Indonesia's deforestation is the product of state and non-state partnership, an intricate and powerful complex of public-private interactions. Current attempts to correct market failures like Indonesian deforestation do not sufficiently recognise that neo-liberal economics which prioritises growth at the same time causes, and prevents effective solutions to, ecological destruction (see Amir-ud-Din and Zaman 2013; Streeck 2014; Smith 2015). Far from presenting solutions to deforestation, these programmes, by replicating the same model, reflect and help legitimate the irreconcilable flaws in contemporary political economy.

Conclusion

This article has mapped the contradictions at the heart of attempts to address deforestation within a neo-liberal framework of marketisation. Global and local capital seek a return on investment, particularly in the period following the global recession after 2008, finding a new source of asset growth in commodities extraction and expansion. An economic growth and market agenda privileges business and profit, encouraging the commodification of nature and the endorsement of a class of wealthy and powerful politico-entrepreneurs who continue to influence state architecture in their favour, allowing deforestation and land-use change on a massive scale. Neo-liberalism is not an immutable force, however, but adapts and is adapted, exploited and resisted by multiple actors at multiple levels. Elements of neo-liberal thinking appear to various degrees in local and regional conduct, and in international policy narratives, indirectly inducing profound local ecological change.

Rural communities and smallholders are often exploited, but in reality, many smallholders and rural stakeholders are quite happy to share in the benefits of development. What many object to is not the system itself, but the manner and inequity of its application. A Gramscian analysis is useful in highlighting the motivations, logics and "common sense" which drive human behaviour and complicity, from the consent and complicity of government with the business lobby, to smallholders and rural farmers with oil palm companies. It is only possible to change people's "common sense" by understanding the logic and rationales that drive behaviour. Conservation interventions, which seek to provide alternatives to existing, destructive activities, have fallen far short of engaging with what these varied economic actors think. A Gramscian solution suggests a much closer engagement which understands the material realities – and the political economic realities – which govern people's lives.

There have been claims of progress in conservation and in forest resource management, like the WRI-Unilever collaboration to map palm oil supply-chains, and the example set by Brazil's dramatic reduction in deforestation. Mapping the palm oil supply-chain, however, is exceedingly complicated and expensive and the multi-level stakeholders have little incentive to co-operate in supplying the requisite information. Brazil's initial success in halting deforestation has stalled, as economic pressures mount and calls abound to loosen environmental restrictions on business. This suggests that current market-led conservation based on neo-liberal notions of lean government efficiency and legal frameworks are unable to withstand the push of capital doing what capital must – accumulate, by seeking new markets. Peatland rehabilitation projects should also not, however, distract attention from acknowledging a deeper-rooted dilemma. Attempts to address the destructive outcomes of the confluence of global and local agendas have tended to overlook the complexity of political economy of deforestation. Indonesia's political economy has historically leant heavily on natural resource extraction, and REDD+ faces deep challenges in aligning an agenda which restricts forest clearances, with vested interests among powerful state and business actors who stand to lose from changes to these sectors. Land ownership rights remain deeply contested, making it difficult to identify beneficiaries of PES schemes. Powerful actors use the language and concepts of sustainability to support competing claims of land ownership, or to promote their own business agendas, undermining the effectiveness and goals of MSI and PES programmes.

Behind both models is the notion that efficient absorption of communities and nature into the money economy will conserve forests. To be sure, this is an ambitious attempt to correct a glaring hole in liberal political economy, which fails to account for the costs of ecological damage or the over-use of non-renewable resources beyond the acknowledgement of such damages as "externalities." However, the MSI and PES models, while ambitious, assume that the underlying liberal market structure is still the appropriate framework in which to operate.

Mainstream conservation programmes fail to challenge their framework of delivery. The assumptions of conservation programmes like UNREDD+ and RSPO are not necessarily up for negotiation, however, given that their institutions receive their funding from international institutions and businesses firmly embedded in the common sense of neo-liberalism. The constitutions of these institutions were inscribed at a time when a neo-liberal market approach to world order was in the ascendant. Now, however, when that approach is producing clear evidence of highly destructive unintended outcomes, the neo-liberal market assumptions of conservation programmes are rendering them ineffective. Rather than pushing harder for "better" market solutions to market failures, conservationists, policy makers and analysts concerned with climate change and tropical deforestation need to address the real cause of ecologically destructive behaviour. Far from creative innovation within the current structure, this requires a much more radical system change in a way that fundamentally challenges the hegemony.

Notes

1. Neo-liberalism is an extension of the liberal school of economics, asserting that human well-being is best supported with the promotion of free enterprise, freedom of the individual to pursue entrepreneurialism, and a framework of private property rights, combined with notions of minimal regulation over trade and market activities. The state is limited to providing the legal structures and institutions to protect and facilitate the free market, so that the state is both included and driving, and excluded and following, market activities.

2. Several interviewees in Indonesia preferred to be anonymous, so their names and affiliations are omitted in the references.
3. This was because different methods were used for measurement in the two data sets (Indrarto et al. 2012).
4. "Oil palm" refers to the tree that is grown for the fruit, which is harvested. Palm oil is the product, the oil which is extracted from the palm fruit or kernel.
5. Specific details of these networks of ownership and investment are being developed by TuK Indonesia (2015).
6. A popular term which describes the bribes, extra fees and back-handers integral to many business operations.
7. Part of the Masterplan for Acceleration and Expansion of Indonesia's Economic Development (MP3EI).
8. I avoid continuing to use the term "natural resources" because this in itself encourages us to think in terms of commodities, since it assumes that nature is a resource for humans to make use of.

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